

# TNG LIMITED

## ENIGMA MINING LTD

### MOUNT PEAKE PROJECT

#### ANNUAL AND FINAL REPORT

EL28491

21/07/11 – 20/07/15

<b>Tenement</b>	EL 28491	<b>1:250 000 Sheet Name</b>	Mount Peake (SF5305)
<b>Holder</b>	Enigma Mining Ltd	<b>1:100 000 Sheet Name</b>	Conical Hill (5555)
<b>Manager Operator</b>	N/A Enigma Mining Ltd	<b>Datum</b>	GDA94-52
<b>Keywords</b>	Historical exploration, geophysics, magnetic anomalies		
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Appendix 1 – EL 28491 Literature Review

# 1. INTRODUCTION

Exploration Licence 28491, was granted to Enigma Mining Limited (Enigma) on 21 July 2011. Enigma is a wholly owned subsidiary of TNG Ltd. The licence forms part of TNG's Mount Peake project area together with EL 27069, EL 27070, EL 27941, EL 29578, ELR 29627, MLA 28341, MLA 29855 and MLA 29856 (Figure 1).

EL 28491 is part of the Mount Peake Expenditure Project Area which has been reported on through to February 2015. The licence has been surrendered at its fourth anniversary. This report deals with all exploration undertaken across the licence since its grant.

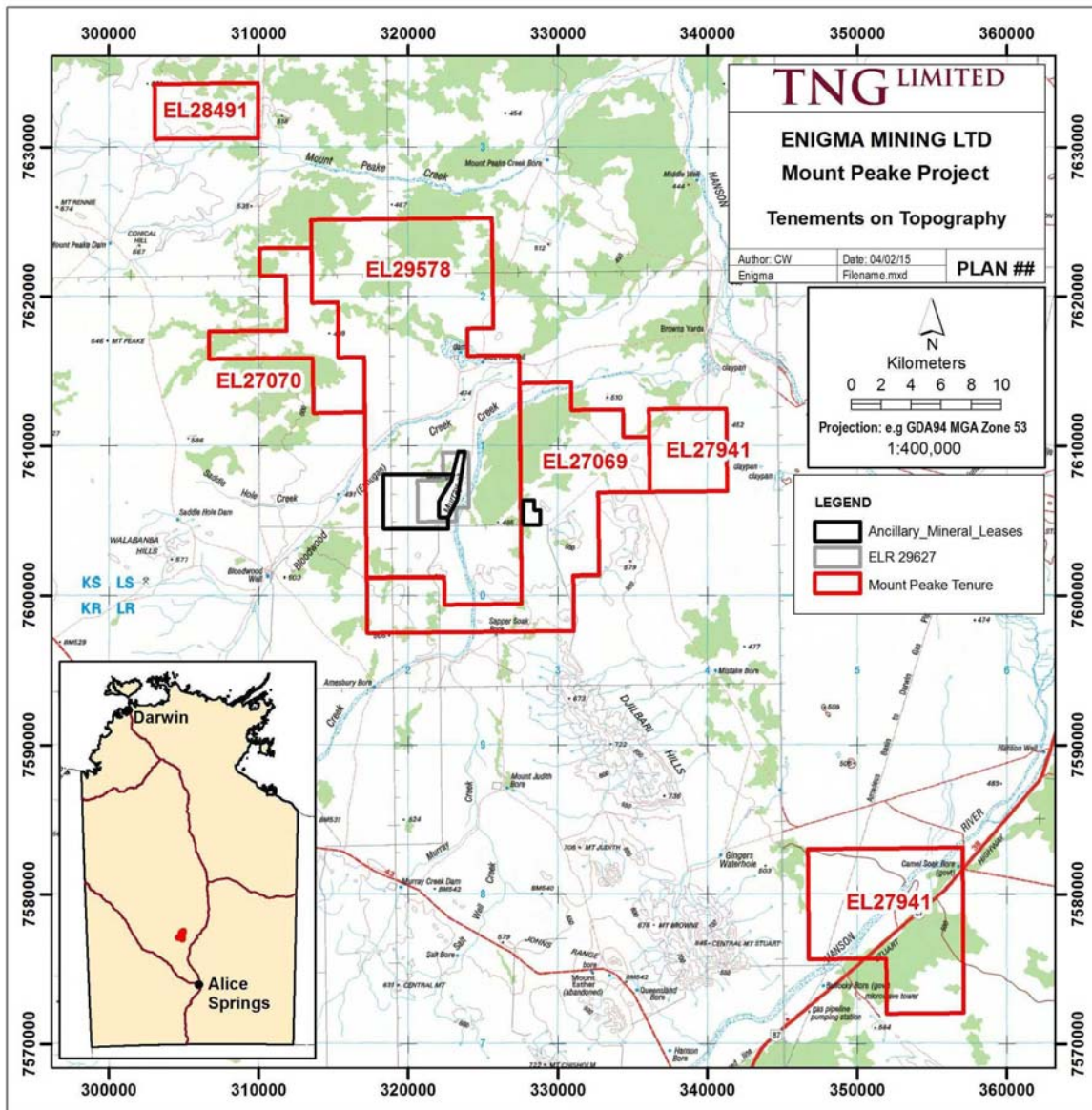


Figure 1: Location of Mount Peake project area.

# 2. LOCATION AND ACCESS

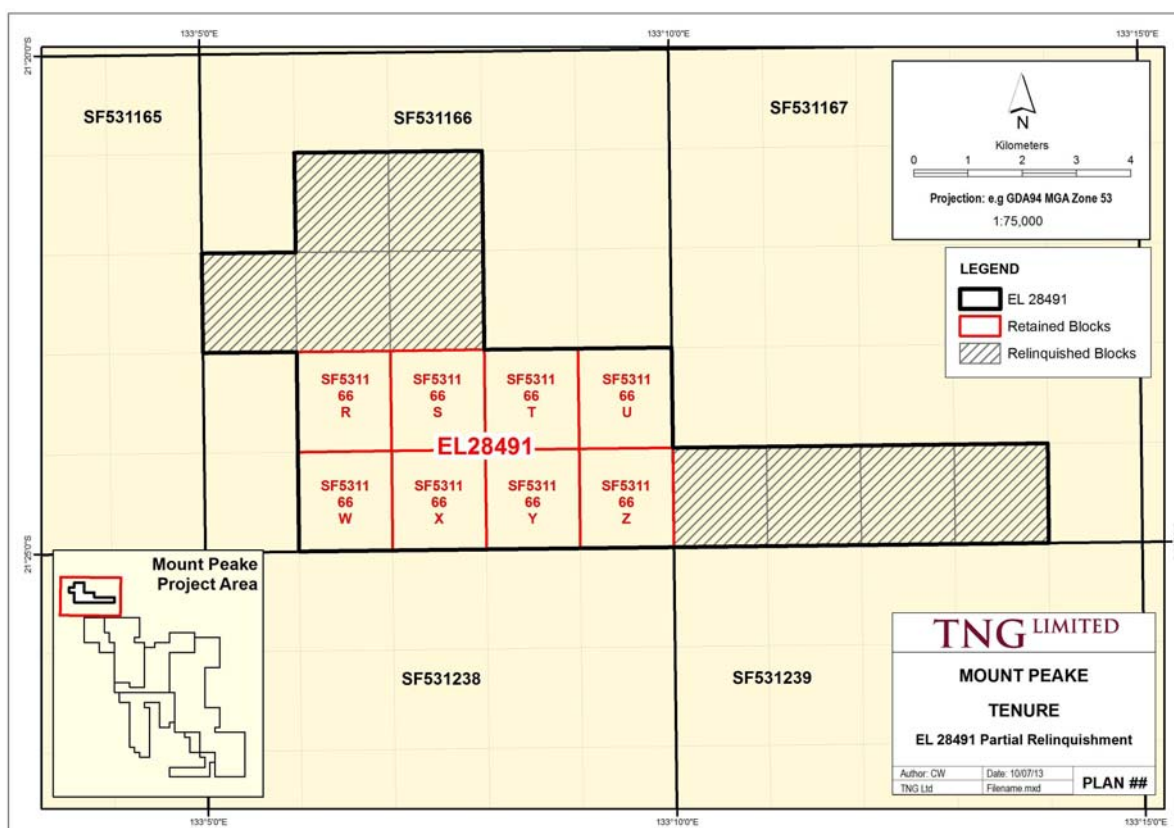
EL 28491, part of the Mount Peake project, is located approximately 250km NE of Alice Springs. The sealed Stuart Highway to Darwin passes through the eastern part of the project area, approximately 80km east of EL2849i (Figure 1). The licence falls in the south-eastern portion of the Mount Peake (SF53-05) 1:250,000 mapsheet. It lies within the Stirling and Anningie Perpetual Pastoral Lease and is subject to Native Title. Access in the licence area is good with well-maintained station and previous exploration tracks.

### 3. TENURE

Exploration Licence 28491 was granted on 21 July 2011. A partial reduction was undertaken prior to the second anniversary of the licence and it was reduced from 17 blocks down to 8 blocks (Table 1; Figure 2). The licence has been surrendered at its fourth anniversary.

**Table 1: EL 28491 tenement details.**

TITLE	PROSPECT	AREA (blocks)	GRANT DATE	EXPIRY DATE
EL 28491	Mount Peake	8	21/07/2011	20/07/2017



**Figure 2: Partial reduction of EL 28491, July 2013.**

### 4. REGIONAL GEOLOGY

The Mount Peake project area lies within the Aileron Province in the north-central part of the Paleoproterozoic Arunta Region (Donnellan, 2008). Neoproterozoic to Paleozoic rocks of the western edge of the Georgina Basin also occur in the area. The project area lies in the south-eastern portion of the MOUNT PEAKE (SF53-05) 1:250,000 mapsheet.

The Aileron Province includes at least five depositional packages that were deposited in the interval 1860-1740Ma (Scrimgeour, 2003), and has been affected by multiple tectonic events (Scrimgeour, 2006). The outcropping Paleoproterozoic geology of MOUNT PEAKE includes a succession of metapsammitic and metapelitic rocks of the Lander Rock Formation (Plr), which have been variably metamorphosed from greenschist to granulite facies (Donnellan, 2008). Stratiform amphibolites and retrogressed amphibolites outcrop locally. The Lander Rock Formation is intruded by a series of 'early' (ca 1820-1770Ma) and 'late' (post-1770Ma) granites. The dominant tectonic and thermal event in MOUNT PEAKE was the Stafford Event at 1805-1790Ma.

The Georgina Basin is a widespread Neoproterozoic to Paleozoic intracratonic basin that was initiated as part of the Centralian Superbasin (Donnellan, 2008). The dominant lithologies are

dolostone, limestone, shales, sandstone and siltstone. These rocks unconformably overlie rocks of the Aileron Province in south-eastern MOUNT PEAKE.

Outcrop within the tenement comprises mainly undifferentiated deeply-weathered Cainozoic rocks, with small outcrops of the Lander Rock Formation, Anningie Member (Donnellan, 2008; Table 2). The Woodalla Member of the Lander Rock Formation is host to copper mineralisation on the Mount Doreen 250K mapsheet, southwest of Mount Peake.

**Table 2: Stratigraphic units of the Lander Rock Formation (from Donnellan, 2008).**

UNIT	LITHOLOGY	STRATIGRAPHIC RELATIONSHIPS	DEPOSITIONAL ENVIRONMENT
Lander Rock Formation, Elr	Metasedimentary, and stratiform mafic (meta-) igneous rocks	Base not seen; unconformably overlain by Eam, Eva; intruded by granite (Ege, Eg <sub>1</sub> , Eg <sub>2</sub> , Egk, Egr, Egw) dolerite and gabbro	Shallow to deep-water marine
Mount Stafford Member, Elr <sub>5</sub> ca 1000 m	Greenschist- to granulite-facies metasedimentary rocks, hornfels, orthoamphibolite, migmatite	Conformable with, and laterally transitional with Elr <sub>5</sub> ; intruded by granite (Ega) and dolerite	Deep-water, turbiditic; possibly locally shallow-marine
Woodalla Member, Elr <sub>4</sub> ca 500–1500 m?	Sandstone/wacke, siltstone/slate/phyllite/schist	Laterally transitional with Elr <sub>5</sub> ; intruded by granite (Egr)	Deep-water, turbiditic
Unnamed lithofacies, Elr <sub>4</sub>	Stratiform mafic rocks, subordinate metasedimentary rocks		
Walabanba Member, Elr <sub>3</sub> ≥ 850 m	Metapelitic, metapsammitic, and stratiform mafic meta-igneous rocks	Intruded by granite (Ege), dolerite and gabbro	Shallow-marine
Unnamed lithofacies*, Elr <sub>3</sub>	Stratiform mafic, and subordinate metasedimentary rocks		
Anningie Member, Elr <sub>2</sub> ≤ 1200 m	Schist gneiss and orthoamphibolite; greenschist- to upper-amphibolite-facies	Intruded by granite (Ege)	Offshore marine?
Unnamed lithofacies*, Elr <sub>2</sub>	Stratiform mafic igneous, and meta-Sedimentary rocks		
Unnamed lithofacies*, Elr <sub>1</sub>	Metasedimentary rocks		

## 5. PREVIOUS EXPLORATION

The Mount Peake region has been partially explored for a variety of commodities including uranium, gold, copper, iron ore, bauxite and diamonds. Recent activities in the Mount Peake area have largely been directed towards U, Au and Ni (Donnellan, 2008). A brief summary of exploration within the area is set out below (Figure 3) and a full literature review is attached as Appendix 1.

- CRA held EL 2837 (Mount Rennie) in the early 1980s. During 1982 they carried out a reconnaissance drainage survey on the licence. Some weakly anomalous results were returned but repeat sampling did not reproduce the anomalies (Harvey, 1982).
- Stockdale Prospecting conducted diamond exploration on EL 5983 in 1989. Only two samples were taken within the boundaries of EL 28491 and there were no kimberlitic indicators found. No further work was recommended and the licence was relinquished (Smith, 1989).
- The Ti-Tree Project comprised EL's 7227, 7558 and 7559 which were granted to WMC in December 1991. A regional lag sampling programme was conducted over EL 7559 (including EL 28491) in 1994. Weak anomalism (9ppb Au) was identified in the north-west corner of EL 7559. The area comprises outcrop with residual soils and some drainage channels. Minor iron-rich lag is present. Soil sampling was conducted to further test the anomalous Au result (Lulofs, 1996). A total of 71 samples were collected over a 400x100m grid. The original lag anomaly could not be reproduced in soils and no other significant anomalies were detected.

- WMC entered into a joint venture with Aberfoyle Resources in April 1997. During 1997 a vacuum drilling programme was carried out at Conical Hill. A total of 894 m were drilled targeting curvilinear magnetic features and low order gold anomalism. 35 holes were drilled within EL 28491 boundaries. Dominant lithologies intersected included mica-schist and granite with sub-ordinate amphibolite and gabbro. Assays peaked at 0.025ppm Au and 52 ppm As (Ashby and Schusterbauer, 1998).
- Surface rock chip sampling was conducted on an ad-hoc basis during the vacuum drilling programme. Within the Conical Hill area six rock chip samples were collected in the area that CRA collected a 1.1ppm Au sample of haematitic shale. Gold values were uniformly low (<0.02ppm Au) and base metal assays peaked at 130ppm Cu, 47ppm Pb, 45ppm Zn and 60ppm As (Ashby and Schusterbauer, 1998).
- EL 8717 was granted to Aberfoyle Resources in July 1994 with the aim of exploring for Granites/Tanami-type gold mineralisation in the area. Initial exploration by Aberfoyle involved acquisition of the existing geophysical datasets relevant to the tenement. Because of the poor quality of the BMR data Aberfoyle commissioned Geoterrex to fly the entire area of EL 8717 to gather magnetic and radiometric data at 500m line spacing. The survey was flown in June 1995 (Drown, 1995). No additional exploration was carried out within the boundaries of EL 28491.

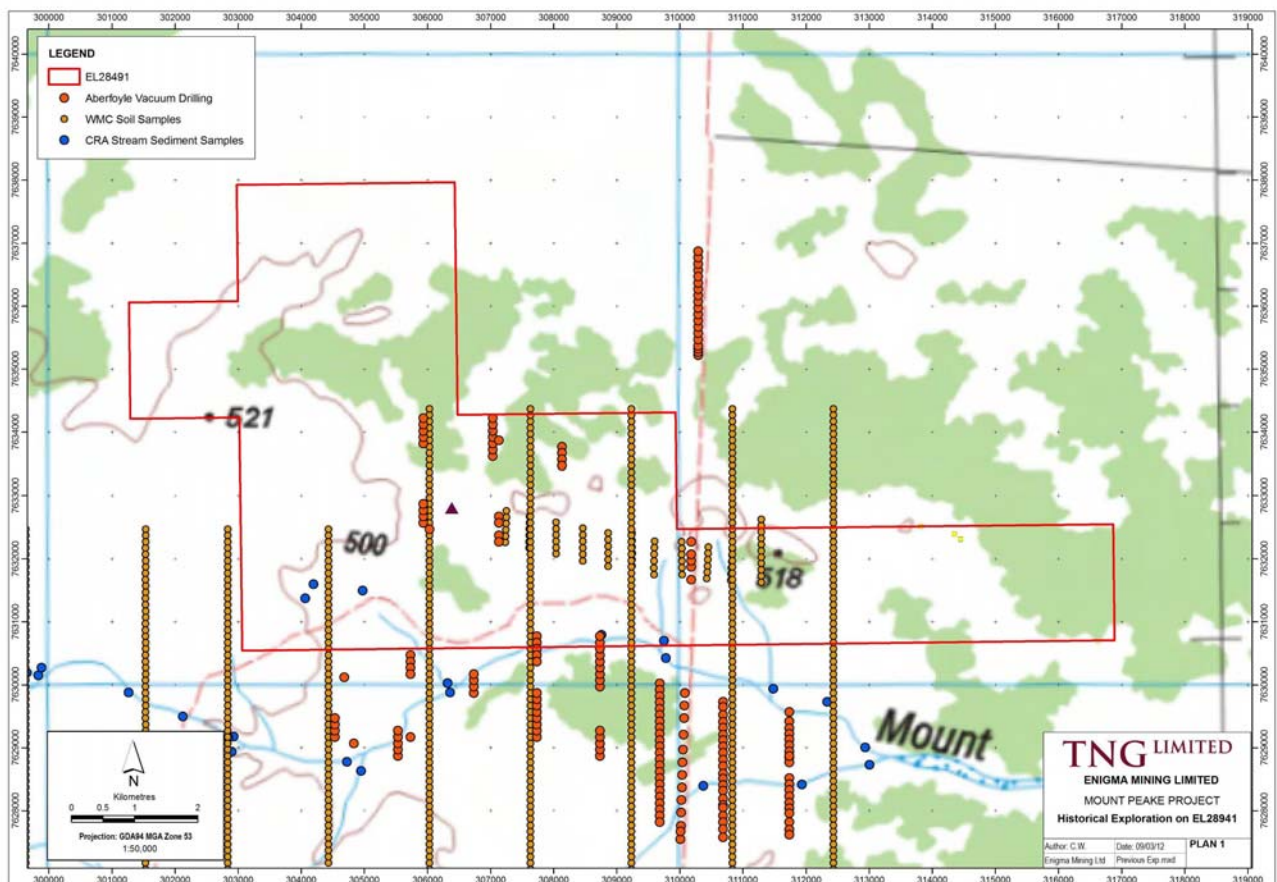


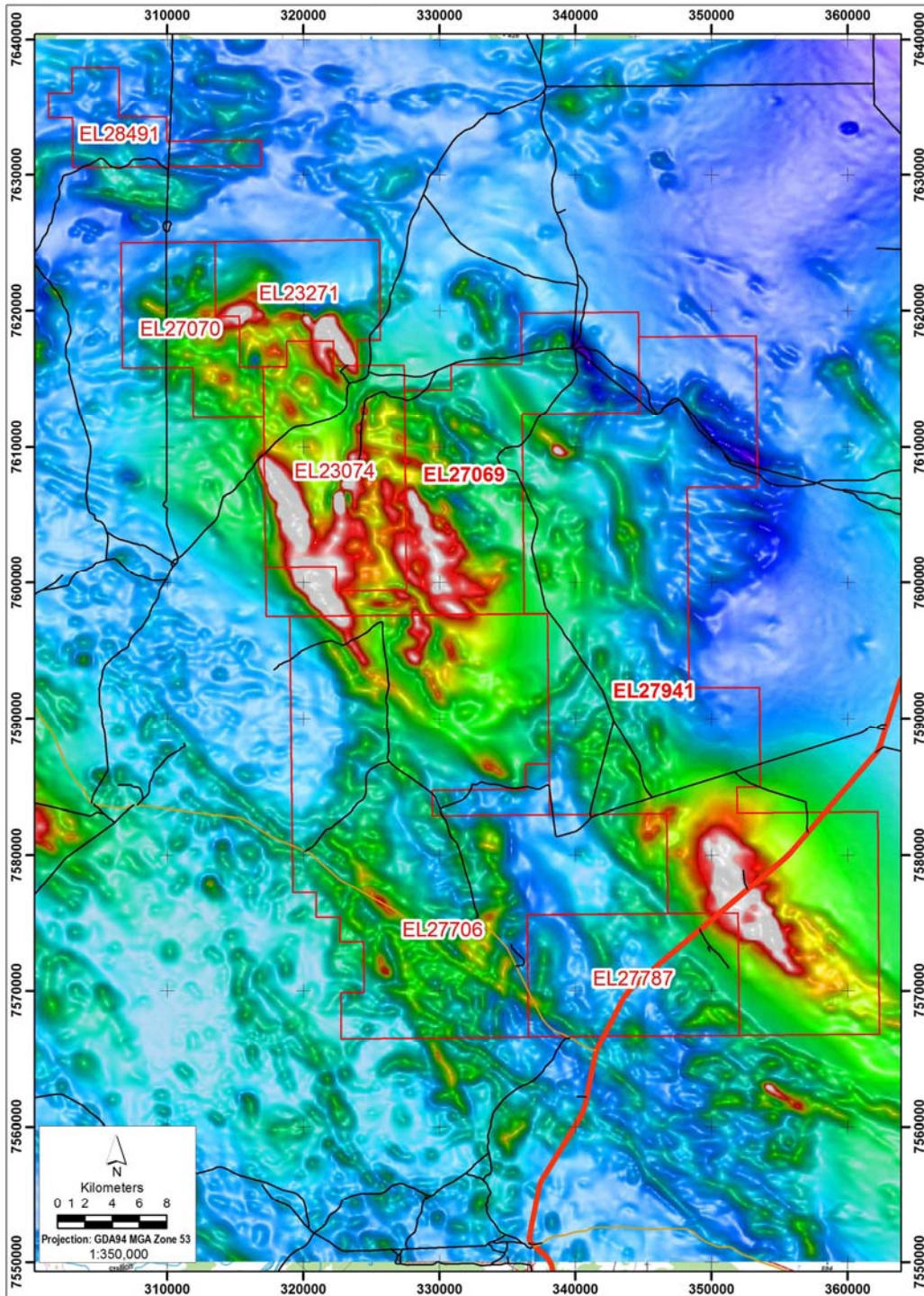
Figure 3: Previous exploration over EL 28491.

## 6. EXPLORATION BY TNG

The regional magnetic data over the Mount Peake project area covers the entire project area (Figure 4). TNG commissioned Southern Geoscience Consultants to review the data and indicate appropriate targets for drilling.

Figure 4 shows the magnetic anomalies within the Mount Peake project area with similar colours, implying similar magnetic intensities. While these high intensity areas strike NW across the project area they do not continue up into EL 28491 and no target areas were identified within the licence boundaries.

No other specific exploration has been conducted on EL 28491 and it has been surrendered at its fourth anniversary.



**Figure 4: Mount Peake project area over regional magnetic data.**

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